

Abstract of the Disclosure

A dry supplement injection system and method for fertigation of crops, and a micronized supplement for use in the dry supplement injection system to fertilize the crops. The injection system is connectable to a water supply to produce a slurry with the supplement which is continuously introduced into a flow of irrigation water for watering the crops. The injection system includes a hopper having a cylindrical upper portion having a supplement inlet opening and a tapered lower portion terminating at a slurry outlet opening. A perforated funnel assembly is disposed within the hopper that includes an inverted, perforated funnel with a vertically disposed inlet pipe that extends through an upper opening of the funnel and which is clamped to the funnel, with a spray nozzle connected to a lower end of the inlet pipe to spray water onto an inner surface of the funnel. An inlet water pipe system includes a main pipe that connects to the water source through an outer wall of the hopper to the inlet pipe and the spray nozzle. Water discharged from the spray nozzle impinges on the inner surface of the funnel such that particles of micronized supplement are washed through the perforated funnel forming a slurry. The particles are of a small size such that any undissolved particles do not readily settle out of the slurry. A mixing pan disposed below the hopper acts as a reservoir to hold slurry until pumped out thereof through an outlet water pipe system that includes a slurry pump which draws slurry from the mixing pan and pumps the slurry under pressure into a pressurized irrigation water pipe through which the flow of irrigation water flows for irrigating the crops. Gravity feed of the slurry may replace the slurry pump for applications where the irrigation water is non-pressurized such as flood irrigation. A float valve connected to the main water pipe assures a minimum level of slurry is contained within the mixing pan, water which enters the mixing

pan through the float valve entering tangentially to stir the slurry to further minimize settling of undissolved particles in the mixing pan.